

REMARKS

Applicants wish to thank the Examiner for considering the present application. In the Final Office Action dated September 19, 2005, claims 1-24 are pending in the application. Applicants respectfully request the Examiner to reconsider the rejection.

Claims 1, 8-14, and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Ibanez-Meier* (6,151,308) in view of *Dalal* (6,819,943). Applicants respectfully traverse.

Claim 1 is directed to a communication system (10) that is generally illustrated in Fig. 1 and is described on pages 5-7. The communication system (10) includes a stratospheric platform (18) having a payload controller and a phased array antenna having a plurality of elements for generating a first beam and a second beam. A gateway station (20) in communication with said stratospheric platform (18) receives a first signal having a first beam having interference from the second beam therein and a second signal having a second beam having interference from the first beam therein. As is best shown in Figure 3 and the corresponding text on pages 9-10, the gateway station (20) includes a first subtracting block (74) for subtracting the second signal from the first signal to obtain the first beam and a second subtracting block (76) for subtracting the first signal from the second signal to obtain a second beam. One point to note is that only two signals are received to form two beams.

The *Ibanez-Meier* reference teaches stratospheric platforms and satellites at various altitude levels. A user may receive signals from two different sources. The system relies on spatial diversity to prevent interference. As the *Ibanez-Meier*

U.S. Serial No. 09/661,967

3

PD-200108

reference implies, when two signal sources become colinear or near colinear, interference between the signals may result in unacceptable signal degradation. As stated beginning in Col. 16, line 61, signal degradation may be remedied by ceasing to communicate over one of the links in which degradation is present or switching to another link. This highlights the spatial diversity aspect for resolving interference. No teaching or suggestion is provided for subtracting signals as in the present invention.

The *Dalal* reference is cited for teaching a first subtracting block and a second subtracting block. The Examiner points to Col. 14, lines 20-25, and Fig. 8 box 856a. The *Dalal* reference is specifically directed to a transmitter and not a receiver in a gateway station. Applicants therefore respectfully request the Examiner to reconsider this rejection as well since the *Dalal* reference does not teach a gateway station that is in communication with a stratospheric platform. The *Dalal* reference also does not teach that the gateway station receives a first signal having a first beam having interference from the second beam therein and receiving a second signal having the second beam having interference from the first beam therein wherein the gateway station has a first subtracting block and a second subtracting block for subtracting the second signal from the first signal and the first signal from the second signal, respectively. Applicants therefore respectfully request the Examiner to reconsider the rejection of Claim 1.

In response to these arguments, the Examiner cites the *Dalal* reference, Col. 14, lines 20-25, canceller 800, and Fig. 8, box 865a, for teaching subtracting signals as in the present claims. Applicants have reviewed these portions and maintain that the

U.S. Serial No. 09/661,967

4

PD-200108

Dalal reference teaches only a transmitter and not a receiver. In fact, the Applicants respectfully request the Examiner to review Col. 14 and the first half of Col. 15, which describes the cancellation. This section is entitled "Transmit Interference Cancellation." This is entirely different than the receiver interference cancellation claimed in the present application. It is believed that the *Dalal* reference does not take into consideration the transmission of the signals. That is, a precompensation signal is formed in the transmitter so that the compensation may affect the ultimate reception of the signals. The present invention waits until the signals have been received in order to compensate for interference. The effects of movement of the transmitter and/or receivers may thus be taken into consideration and the weights of the present invention may be so chosen. Page 10, lines 15 through 18, describe the positioning of the beams that may be taken into consideration. Applicants recognize that this is not recited in Claim 1 but is a consideration why transmitting is not the same as receiving as set forth in the *Dalal* reference.

Also, on page 12 of the Final Office Action, the Examiner states that *Dalal* teaches communication with a stratospheric platform in Fig. 3. Applicants can find no teaching in the description of Fig. 3 for the proposition of a stratospheric platform. The Examiner again refers to Col. 14, lines 20-25, for cancellor 800 and boxes 856a, 856b, and Fig. 8 for the gateway station receiving a first signal having a first beam having a first interference from the second beam therein and receiving a second signal having a second beam therein, the second beam having interference from the first beam therein wherein the gateway station has a first subtracting block and a second subtracting block for subtracting the second signal from the first signal and the first

U.S. Serial No. 09/661,967

5

PD-200108

signal from the second signal, respectively. As mentioned above, Applicants respectfully submit that this portion of the *Dalal* reference is for transmitter interference cancellation. No teaching or suggestion is provided in these passages for anything more than transmitter interference cancellation and not receiver interference cancellation. Therefore, Applicants respectfully request the Examiner to reconsider this rejection as well.

Claims 8-13 depend from Claim 1 and are believed to be allowable for the same reasons set forth above.

Claim 14 is a method claim that recites receiving a first signal having a first beam having interference from a second beam therein at a gateway station receiving a second signal having a second beam having interference from the first beam, subtracting the second signal from the first signal to obtain the first beam, and subtracting the first signal from the second signal to obtain the second beam. It is clear that this also refers to receiving signals and not transmitting signals. Therefore, the *Ibanez-Meier* and *Dalal* references also do not teach or suggest the elements set forth in Claim 14.

Claim 20 is also an independent claim and describes receiving a plurality of signals. Thus, Claim 20 is directed to a receiving configuration in a similar manner to that of Claims 1 and 14. Therefore, Claim 20 is also believed to be allowable for the same reasons set forth above.

Claims 5-7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Ibanez-Meier* in view of *Dalal* in further view of *Rouffet* (5,410,731).

U.S. Serial No. 09/661,967

6

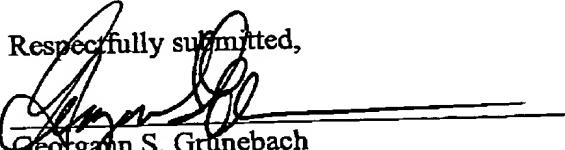
PD-200108

Claims 5-7 are dependent upon Claim 1. The *Rouffet* reference also does not teach or suggest the elements missing from Claim 1. That is, the *Rouffet* reference also does not teach or suggest subtracting using the receiving signals. Applicants therefore respectfully request the Examiner to reconsider the rejection of Claims 5-7.

Claims 2-4, 15-17, and 21-24 stand rejected as being unpatentable over *Ibanez-Meier* in view of *Dalal* in further view of *Baier* (6,519,477). Applicants respectfully traverse. Claims 2-4 are dependent upon Claim 1. Claims 15-17 are dependent upon Claim 14 and Claims 21-24 depend from Claim 20. The *Baier* reference also does not teach or suggest the subtracting blocks of a received signal. Applicants therefore respectfully request the Examiner to reconsider the rejection of these claims as well.

In light of the above remarks, Applicants submit that all rejections are now overcome. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments which would place the application in better condition for allowance, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,



Georgann S. Grunebach
Reg. No. 33.179
Attorney for Applicants

Date: October 14, 2005

The DIRECTV Group, Inc.
RE/R11/A109
2250 East Imperial Highway
P. O. Box 956
El Segundo, CA 90245
Telephone: (310) 964-4615